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EXPANDING AN EFFECTIVE VOCABULARY  
OF A SPEECH RECOGNITION SYSTEM

Abstract

The invention provides techniques for creating and  
5 using fragmented word models to increase the effective size  
of an active vocabulary of a speech recognition system. The  
active vocabulary represents all words and word fragments  
that the speech recognition system is able to recognize.  
Each word may be represented by a combination of acoustic  
10 models. As such, the active vocabulary represents the  
combinations of acoustic models that the speech recognition  
system may compare to a user's speech to identify acoustic  
models that best match the user's speech. The effective  
size of the active vocabulary may be increased by dividing  
15 words into constituent components or fragments (for example,  
prefixes, suffixes, separators, infixes, and roots) and  
including each component as a separate entry in the active  
vocabulary. Thus, for example, a list of words and their  
plural forms (for example, "book, books, cook, cooks, hook,  
20 hooks, look and looks") may be represented in the active  
vocabulary using the words (for example, "book, cook, hook  
and look") and an entry representing the suffix that makes  
the words plural (for example, "+s", where the "+" preceding  
the "s" indicates that "+s" is a suffix). For a large list  
25 of words, and ignoring the entry associated with the suffix,  
this technique may reduce the number of vocabulary entries  
needed to represent the list of words considerably.

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